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December 31, 2009

Mr. Ming-Tai Chao, P.E.  
Environmental Engineer II  
North Carolina Department of Environmental and Natural Resources  
Division of Waste Management  
Permitting Branch, Solid Waste Section  
1646 Mail Service Center  
Raleigh, NC 27699-1646

Subject: Dare County  
Dare County Construction and Demolition Landfill (C&DLF)  
Permit to Construct Application  
Response to Comments

Dear Mr. Chao:

On behalf of Dare County, CDM is pleased to submit revisions to the Dare County Construction and Demolition Landfill Permit to Construction Application per your review comments received on August 24, 2009. For your convenience, CDM has formatted this letter correspondence to present your comment followed immediately by our response in *italics*.

#### Section One - Facility Plan

1. (Section 1.3.2.1) The last sentence stated "The gross capacity of Cells 1 through 5 is approximately 1,571,800 million cubic yards." Please delete "million," likely a typographic error, from the sentence.

*The reference to "million," in the last sentence of Section 1.3.2.1 is a typographic error and should be deleted. A revised Facility Plan is included as part of Attachment # 1.*

2. (Section 1.3.2.4) The 2-foot thick final cover system is likely a typographic error? Please verify.

*The reference to 2-foot thick final cover system is a typographic error and should read 3-foot thick. A revised Facility Plan is included as part of Attachment # 1.*

#### Section Three - Construction Quality Control Plan (CQA Plan)

3. Regarding the response to the Comment 30 dated March 6, 2009, is this vegetative cover stated in Section 5 same as the erosion layer described in

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Fac/Perm/Co ID # 28-03 Date 01/16/2010 Doc ID# DIN 9246  
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Section 1.3.3.1.1 (Facility Plan) and Section 1.1.1 (Closure Plan)? If so, the minimum thickness of the constructed layer specified in Section 5.3.A shall be 18-inches overlain the low permeability soil liner. Additionally, to meet the safety factor requirements of slope stability analysis described in the Attachment B-4, the soil used for the erosion layer must have a unit weight greater than or equal to 120 pound per cubic feet and internal friction angle greater than or equal to 30 degree tested by an acceptable ASTM method. Please revise Section 5 by specifying the testing methods and frequencies to ensure the as-built erosion layer has the adequate strength which meet the above-mentioned design criteria.

✓ *The material properties and placement methods for vegetative cover specified in Section 5 of the CQA plan should meet or exceed the strength properties used in slope stability calculations for this layer. The unit weights and strength properties for this layer are typical and actually conservative values based on literature for similar types of soil. In addition, there are no strength testing requirements on the vegetative cover and/or erosion layers.*

*A revised Section 3 – Construction Quality Assurance Plan is included as part of Attachment # 2. Additionally, Section 2 – Engineering Plan, Appendix B – Design Geotechnical Evaluation, Appendix B-6 and Attachment B-4 have been revised and are included in Attachment # 3.*

4. (Section 6.1) Please specify the soil types and as-built thickness for the base pad of Cell 4 which must meet the criteria stated in the Rule .0540(2) and consistent with the Section 1.1 of the Engineering Plan, the Grading Plan C-3 and drawing Sheet D-2.

✓ *Section 6.1 has been revised to include the required soil types for the upper two feet of the base pad and the as-built thickness requirements for the base pad. A revised Section 3 – Construction Quality Assurance Plan incorporating these comments is included in Attachment # 2.*

5. (Sections 4.4.1 & 6.4.1) Please confirm the testing frequency for final liner thickness. It is likely the frequency of 4/acre/lift is a typographic error.

*In section 4.4.1 the reference to testing method and frequency for final liner thickness has been revised to read topographic survey for method and 2 – existing and post liner installation for frequency. A revised Section 3 – Construction*



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*Quality Assurance Plan incorporating the aforementioned changes is included as part of Attachment # 2.*

✓ *Section 6.4.1 the reference to testing method and frequency for base pad thickness has been revised to read topographic survey for method and 3 Surveys\* for frequency, where the astrik denotes, "\* Three topographic surveys shall be conducted to verify the base pad thickness. The first survey shall be performed prior to the start of any construction activities, then after the initial three feet of compacted fill is installed and a final survey after the upper two feet of compacted fill is installed. These topographic surveys shall be compared to determine the as-built thickness of the base pad."*

*A revised Section 3 - Construction Quality Assurance Plan incorporating the aforementioned changes is included as part of Attachment # 2.*

6. Is the landfill facility located within a 100-year floodplain? Has the Dare County Board of Commissioners adopted a resolution to grant a variance to the Dare County's flood hazard ordinance for the C&DLF facility in accordance with Rule .0536(c)(4)? Please provide a copy of the resolution approving the variance.

✓ *Yes, it is in the 100-yr floodplain. Included in the Facility Plan as Appendix A - Site Location Restrictions under Section 2.9.2 - Characterization Study, Floodplains, reference is made to an approved resolution by the Dare County Board of Commissioners on August 2, 2004. This resolution is included as Attachment 2-1 in Appendix A of the Facility Plan, just after Page 2-3 in Section 2 - Characterization Study.*

#### **Section Four - Operations Plan**

7. (Sections 2.2 & 7.7) Rule 15A NCAN 13B .1105(f) prohibits whole scrap tires to be disposed in a C&DLF. Therefore, please remove the scrap tires from the list of acceptable wastes to be disposed of in the C&DLF. However, the existing rules encourage a C&D landfill facility providing a designated area, as a temporary storage unit within the landfill property boundaries, to collect scrap tires from the approved service areas for properly recycling or final disposal. To manage scrap tire, the section 7.7 of the Operations Plan must be prepared in accordance with Solid Waste Management Rule - Section 1100. The plan needs to describe, but not limited, the brief description of collection/storage area (shown the location on the existing



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facility plan map) such as structure, size, physical features, etc., the maximum amount of tires to be allowably stored at any time at the facility, the estimated tire amount per month, fire prevention measures and notification procedures, the contact information of a contractor or recycler to handle off-site transportation [the qualification/ certification of a tire transporter], and the frequency or schedule to remove the waste off-site.

PTO  
requirement ✓

*Management of recyclables is being reviewed and a permit modification will be submitted for approval prior to acceptance of the aforementioned materials in Phase 4.*

8. (Section 7.7) Regarding the responses to the Comment 34 dated March 6, 2009, the special wastes including white goods are listed as recyclable wastes at the C&DLF. Therefore, the Operations Plan needs to address provisions to manage white goods in accordance with North Carolina General Statutes Part 2D - Management of Discarded White Goods (130A-309.80 -.87). The plan needs to describe furthermore, but not limited, by including the following information: the maximum tonnage allow to be stored at any time at the facility, the estimated tonnage per month, the procedures of removal and storage chlorofluorocarbon refrigerants, the contact information of a contractor or recycler to handle, off-site transportation, and the frequency or schedule to remove the waste off-site. Please revise the Section 7.7 of the Operations Plan accordingly.

PTO  
requirement ✓

*Management of recyclables is being reviewed and a permit modification will be submitted for approval prior to acceptance of the aforementioned materials in Phase 4.*

9. (Section 7.7) Will areas stockpiled the recyclable waste in the C&DLF be used to store the same type wastes collected and removed from the adjacent solid waste transfer facility (Permit # 28-05T)? If so, please include the waste management practices to this section.

PTO  
requirement ✓

*Management of recyclables is being reviewed and a permit modification will be submitted for approval prior to acceptance of the aforementioned materials in Phase 4.*





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10. (Section 9) For Comment 36 dated March 6, 2009, the reviewer inadvertently cited Rule .0542(I)(5); the correct one shall be .0542(i)(5). Please provide provisions in the Operations Plan

*After discussions by phone with the reviewer Rule .0542(l)(5) was identified as the rule that needed to be incorporated into the Operations Plan. Rule .0542(i)(5) has already been addressed in the Operations Plan. Section 9.4 – Discharge of Pollutants and Section 9.5 – Discharge of Nonpoint Source Pollution have been incorporated into Section 9 in the Operations Plan to address Rule .0542(l)(5). A revised Section 9 is included in Attachment # 4.*

If you have any questions or need additional information, please do not hesitate to call me at (919) 787-5620.

Very truly yours,

W. Michael Brinchek, P.E.  
Project Manager  
Camp Dresser & McKee

cc: Ed Mussler, NCDENR DWM  
Edward Mann, Dare County

# CDM Transmittal

**CDM**

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Phone: (919) 787-5620  
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**To:** Ming Tai Chao, P.E.

**From:** Patrick Stout

**Organization/**

**Address:** NCDENR – Division of Waste  
Management, Permitting Branch Solid  
Waste Section

**Date:** December 31, 2009

1646 Mail Service Center

Raleigh, NC 27699-1646

**Re:** Dare County C&D Landfill Cell No. 4 Permit to Construct – Response to Comments

**Job No.:** 17952-56960

**Via:** *Mail:* *Overnight:* **XX** *Courier:*

**Enclosed please find:**

**For your information**

**For your review**

**For your signature**

**XX**

**Approved**

**Approved as noted**

**Returned to you for correction**

● **Message:**

Find attached one (1) copy of the response to comments for the Dare County C&D Landfill Phase 4 Permit to Construct, which were received from the NCDENR Solid Waste Section on August 24, 2009. Please contact me at (919) 787-5620 with any questions or concerns.

Signed